Mathematical Biosciences

an international journal

Volume 157 Numbers 1&2 March 15, 1999

Preface	1
Deterministic Models with Applications in Population Dynamics and Other Fields of Biology	
M. Martcheva, Exponential growth in age-structured two-sex populations	1
J. Waniewski and W. Jedruch, Individual based modeling and parameter estimation for a Lotka–Volterra system	23
B. Buonomo, A. Di Liddo and I. Sgura, A diffusive-convective model for the dynamics of population–toxicant interactions: some analytical and numerical results	37
T. Kostova, J. Li and M. Friedman, Two models for competition between age classes R. Bravo de la Parra, E. Sánchez, O. Arino and P. Auger, A discrete model with density	65
dependent fast migration	91
L. Sanz and R. Bravo de la Parra, Variables aggregation in a time discrete linear model L.M. Abia and J.C. López-Marcos, On the numerical integration of non-local terms for	111
age-structured population models	147
O. Angulo and J.C. López-Marcos, Numerical schemes for size-structured population	
equations	169
G. Chiorino, P. Auger, JL. Chassé and S. Charles, Behavioral choices based on	
patch selection: a model using aggregation methods	189
B.W. Kooi, M.P. Boer and S.A.L.M. Kooijman, Resistance of a food chain to invasion	
by a top predator	217
 V.G. Petrov and S.G. Nikolov, Rheodynamic model of cardiac pressure pulsations R.G. Seigneuric, JL. Chassé, P.M. Auger and A.L. Bardou, Role of the dispersion of refractoriness on cardiac reentries 	237 253
S.V. Aksenov, Dynamics of the inducing signal for the SOS regulatory system in Escherichia coli after ultraviolet irradiation	269
M.Y. Alvarenga, K. Sameshima, L.A. Baccalá and H.M. Yang, Non-linear analysis of the rhythmic activity in rodent brains	287
D. Popivanov and A. Mineva, Testing procedures for non-stationarity and non-linearity	
in physiological signals	303
MA. Popovici, N. Mincu and A. Popovici, A comparative study of processing	
simulated and experimental data in elastic laser light scattering	321
N.B. Kounov and V.G. Petrov, Determination of erythrocyte aggregation	345
O. Bernard and JL. Gauzé, Non-linear qualitative signal processing for biological	
systems: application to the algal growth in bioreactors	357
Author index	373
Subject index	377

